

**REMARKS**

Claims 1-12 are currently pending in this application. The Examiner has rejected Claims 1-12 under 35 U.S.C. §103.

**Double Patenting – Statutory**

The Examiner rejected claims 1-12 under 35 U.S.C. §101 as claiming the same invention as that of claims 5-12 and 15-18 of copending Application No. 10/071,917. Claims 5-12 and 15-18 of copending Application No. 10/071,917 have been canceled by the Applicants. Accordingly, the Applicant's respectfully submit that this rejection is overcome.

**Double Patenting – Obviousness-type**

The Examiner rejected claims 1-12 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of various copending Applications.

The Applicants are willing to submit a terminal disclaimer to overcome the rejections over the claims of the Applications the Examiner cited, if the Examiner believes the Application is otherwise allowable.

**35 U.S.C. §103(a) – Claims 1-12**

The Examiner rejected claims 1-12 as being unpatentable over by Dabak et al. (U.S. Ref. No. 6,775,260) in view of Rowitch et al. (U.S. Ref. No. 6,628,702).

As the Examiner agrees, the Dabak et al. reference does not disclose, teach, nor suggest anywhere the use of different channelization codes. Indeed, in figure 2, the Dabak discloses, *inter alia*, encoded symbols  $D_1^1$  and  $D_2^1$  undergoing the **same** "user specific code"  $C^1$ . There is no teaching that any different channelization code is used on the symbols in the Dabak reference. And notably, there is no teaching in the Dabak reference of "each channelization code being uniquely associated with one of a first and second antennas".

The Rowitch reference merely makes a vague reference in the background section relating to "covering the data for each antenna with a particular channelization code," but does not disclose, teach or suggest that the particular code is different for each antenna or uniquely associated with each antenna. Indeed, the Dabak reference itself discloses a "particular" user specific code. However, it is the **same** code, not a different code, and particularly not a different code that is uniquely associated with each antenna, as the Examiner agrees.

Additionally, the Rowitch reference discloses covering with a Walsh symbol and/or a complement of the Walsh symbol as a channelization code. However, the Rowitch reference clearly discloses the use of **both** Walsh codes to produce **both**

symbol streams  $S_1$  and  $S_2$  (See Figure 2). Accordingly, different channelization codes are not uniquely identified with each antenna, and the Rowitch reference fails to cure this deficiency of the Dabak reference.

Applicants' previously presented independent claim 1, on the other hand, recites:

A user equipment (UE) including a transmitter for transmitting a data field of symbols, the transmitter comprising:

a first and second antenna for transmitting said data field of symbols, wherein said data field includes a first data field;

an encoder for encoding said data field producing a second data field having complex conjugates of the symbols of said data field; and  
a first and second spreading device for spreading said first and second data fields, wherein said first spreading device spreads said first data field using a first channelization code and said second spreading device spreads said second data field using a second channelization code, each channelization code being uniquely associated with one of said first and second antennas.

which is neither disclosed, taught nor suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Applicants' previously presented independent claim 1 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

The Applicants' claims 2-4 depend, either directly or indirectly, from Applicants' patentable independent claim 1. Therefore, Applicants' dependent claims 2-4 are patentable for at least the same reasons as Applicants' patentable independent claim 1.

The Applicants' previously presented independent claim 5 recites:

A user equipment (UE) including a transmitter comprising a transmitter including:

a first and second means for transmitting a data field of symbols including a first data field;

a means for encoding said data field producing a second data field having complex conjugates of the symbols of said first data field; and

a first and second spreading means for spreading said first and second data fields, wherein said first spreading means spreads said first data field using a first channelization code and said second spreading means spreads said second data field using a second channelization code, each channelization code being uniquely associated with one of said first and second transmitting means.

Again, the use of channelization codes that are uniquely associated with one of first and second transmitting means is not disclosed, taught or suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Applicants' previously presented independent claim 5 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

Claims 6, 7, and 8 depend, either directly or indirectly, from Applicants' patentable independent claim 5, and are therefore patentable for at least the same reasons as Applicants' patentable independent claim 5.

Applicants' independent claim 9 recites:

A user equipment (UE) including a transmitter for transmitting a data field of symbols, the transmitter comprising:

a first and second antenna for transmitting said data field of symbols; and

a first and second spreading device for spreading said data field,

wherein said first spreading device spreads said data field using a first channelization code, producing a first spread data field, and said second spreading device spreads said data field using a second channelization code, producing a second spread data field, each channelization code being uniquely associated with one of said first and second antennas.

The use of channelization codes that are uniquely associated with one of first and second antennas is not disclosed, taught or suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Applicants' independent claim 9 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

Additionally, claim 10 depends from Applicants' patentable independent claim 9, and is therefore patentable for at least the same reasons as Applicants' patentable independent claim 9.

Applicants' independent claim 11 recites:

A user equipment (UE) including a transmitter comprising:  
a first and second means for transmitting a data field of symbols; and  
a first and second spreading means for spreading said data field, wherein said first spreading means spreads said data field using a first channelization code producing a first spread data field and said second spreading means spreads said second data field using a second channelization code producing a second spread data field, each channelization code being uniquely associated with one of said first and second transmitting means.

The use of channelization codes that are uniquely associated with one of first and second transmitting means is not disclosed, taught or suggested in the Dabak et al. reference or the Rowitch et al. reference. Accordingly, the Applicants' independent claim 11 is patentable over the Dabak and Rowitch references, whether taken alone or in combination with each other.

Additionally, claim 12 depends from Applicants' patentable independent claim 11, and is therefore patentable for at least the same reasons as Applicants' patentable independent claim 11.

**Applicant:** Kim et al.  
**Application No.:** 10/077,565

**Conclusion**

The Applicants thank the Examiner for his consideration and believes the application is in condition for allowance. Early and favorable reconsideration is respectfully solicited.

If the Examiner has any questions, or believes that a telephone conference would advance the prosecution of this application, the Examiner is requested to contact the Applicants' undersigned attorney.

Respectfully submitted,

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